

July 20, 1977

Does this memo reflect official MIT position - addressed by all board members?

Circulate to faculty & students for their comments. 9310160-3 PD-ADD-608-A

Report on THE M.I.T. INP PROGRAM

44p

This memorandum has been prepared in response to the memorandum of 7 July 1977 from the Office of Nutrition, TAB/AID, entitled "Review of Progress of M.I.T.'s INP Program in Meeting Targets Specified in Original Grant Agreement and Work Plan for Years III and IV."

We shall not attempt here to provide a detailed report on the M.I.T. INP program. Rather we shall seek to lay out what seem to us the major factors that should be taken into account in evaluating both the performance of the INP program to date and its potential for the future. We will seek to identify problems and failings as well as promises and successes.

I. General Considerations

Before turning to the specific topics covered in the Office of Nutrition memorandum, some more general considerations and assessments need to be brought out.

On an overall basis we find the AID memorandum reflects a view of the M.I.T. program far from what we believe to be the actual situation. In fact, much of it is quite puzzling to us. The program has certainly not been an easy one, and has had important problems as well as strengths; its management situation in particular has been quite difficult.

But, the record of accomplishment in graduate training, workshops, research, and consulting has been an extremely positive one, more than meeting the original objectives of the grant for the first several years. The difficulties encountered have not been more than would be expected in launching an intellectually demanding enterprise of requiring interaction with domestic

and foreign institutions and governments in an institution with high standards of quality as well as a commitment to public purpose. These problems resulted in program realignment where necessary in the last year or so, a realignment directly responsive both to experience and to the original program objectives.

In our view, we are now in a much stronger position, with new staff and ties to other institutions, and in an excellent position to meet more effectively those aspects of the program that need improvement. We have an institutional commitment to continue after the normal expiration of the 211D, with objectives that appear to us to be quite close to the fundamental purposes for which the grant was made.

Given this perspective, it is necessary to ask why it seems so different from that of AID. First, it is abundantly clear that in the past year and a quarter there has been inadequate communication between the M.I.T. INP program and the Office of Nutrition of AID. There is no point in speculating about the reasons that may have created that situation. Suffice it to say that we share at least some of the blame in having given insufficient attention to the importance of keeping these lines of communications open. The consequence has been that AID has faced the critical question of the future of the Agency's grant in support of the INP program with only partial information about INP's activities.

Even before the issue arose of possible termination of the AID grant, we had begun to take steps to rebuild the lines of communication, with more frequent contact between members of the INP staff and the Office of Nutrition. But we must accept some responsibility for having failed to take greater initiative in this regard.

Second, the leadership and management problems of the INP program have obviously had their effects. This does not refer to the quality of any

individual connected with the INP program, now or in the past. Rather, it reflects the degree to which the program lost momentum after the first director resigned, but continued as director for an additional seven months, an extensive search was instituted for a successor, and finally time was required for the present director to free himself to devote more time to the program. In part, the changecover had more image and morale problems than actual effects on activities, but it also made planning and initiation of new actions more difficult. The INP Advisory Committee is acutely aware of the need for greater presence and the new director is now making a major long term commitment of time and priority to INP. To help out during the transition of the past year, a full time senior experienced person, Dr. Max Milner, former director of the PAC Secretariat and first director of the AID Office of Nutrition, was brought into the program as Associate Director. Additional faculty are to be added in the coming academic year.

It is important to recognize that we have never treated the question of INP leadership lightly. When the first director of INP informed us in October 1975 of his intention to leave at the end of April 1976, we immediately took two steps. The first was to ask the Assistant Director of the Center for International Studies to devote half time to ensuring that the day to day management of the program was not interrupted. This action helped to moderate the severe disruption that might otherwise have occurred. More important, we immediately established a Search Committee to undertake an international canvass for an appropriate new Director. The Search Committee's procedures were those that would be employed in any other effort to fill a senior position at M.I.T.: leaders in the field both in the U.S. and abroad were canvassed for suggestions (the leaders who were consulted included a number of individuals at AID, including the Office of Nutrition); recommendations

and suggestions were sought from INP staff and students and others at M.I.T. with interests related to INP's; and advertisements were placed in professional journals. A large number of suggested names and formal applicants were considered. Ultimately either formal offers, or inquiries as to whether an offer would be appropriate, were made to six individuals. Their names suggest the seriousness of our commitment to INP: Lincoln Chen, Frederick Sai, Jon Rohde, Sol Chafkin, Stanley Hegginsbotham, and Warren Ilchman. None of these were available -- because of previous commitments, for personal reasons, or because more professionally rewarding positions were offered by others. The point of reviewing this process here is to emphasize that we were neither unaware of nor indifferent to the need for strong leadership in INP, and moved as expeditiously as possible, consistent with University standards of quality, to meet it.

Along with closer communication with AID and leadership within INP, a third underlying factor in the differing evaluations of the past and future of INP is the matter of staffing. This issue underlies many of the problems with which we have been wrestling and some of those the memorandum of the Office of Nutrition identifies. Staff size and quality are common problems, or course. There are, however, special factors at M.I.T. (and this applies to most universities) that bear on staff recruitment. Staff in INP or any other M.I.T. program must come either from the faculty of the academic departments or from individuals specially hired to work on specific projects. Where we are seeking to create an entity that will survive its initial funding -- which is a prime goal of AID and of M.I.T. in this case -- it is essential to involve faculty to the greatest extent possible, since faculty on a tenure track or with tenure are likely to be at the Institute for long periods of time whereas non-faculty staff are at the mercy of continuous and successful fund raising.

Ideally of course one might wish to engage the participation of existing faculty, and to some extent that has been possible. We must also look for new faculty. Here of course the interests of INP alone are not at issue; the disciplinary department must have or establish a faculty opening in the relevant field and an individual must be indentified who meets the department's quality standards as well as INP staffing needs. This can only be done on the basis of an extended search, including advertising the position, in order to comply with technical requirements (e.g. Federal Equal Opportunity Regulations) as well as to secure the best available person. This is inevitably a protracted process.

One outstanding tenure faculty appointment was made early in the INP program when Dr. Lance Taylor accepted a joint faculty appointment in the Departments of Nutrition and Food Science and of Economics. Dr. Barbara Underwood has accepted a full-time appointment of Visiting Associate Professor in the Department of Nutrition and Food Science for an initial year beginning this September, which we expect to extend. That Department is nearing final selection of another faculty member in the area of nutrition and health policy who will be affiliated primarily with INP. (Negotiations are well advanced but it would be inappropriate to specify names in writing. They can be supplied orally if desired.) We thus feel that our long labors are about to pay off in a greatly strengthened INP staff. This process may seem tedious and cumbersome but it is a system universities have long followed; it has endured because we are persuaded it provides a staff of high quality and, ultimately, great stability.

The slowness of recruiting a solid core of staff with faculty ties has been more detrimental to the INP program than might otherwise have been the case because of the insularity of the program in its early years. In an

apparent effort to build a strong sense of cohesion and community among the INP students and staff, the program's initial leadership tended to inhibit the growth of ties and contacts between those within the INP program and the rest of the Institute. Thus, faculty who were unprepared to make a full professional commitment to INP but who nonetheless had much to contribute to an understanding of the general social, economic, or nutritional milieu from which the problems of malnutrition grew were not brought into fruitful relationship with the program. (Professor Martin Diskin was an important exception; but he has been on leave in Mexico for the past two years.) This was particularly troublesome in the case of the students who in some cases were increasingly strangers to their home departments and faculty. We are seeking now to lower the barriers between INP and the rest of the Institute.

As a last general item, we cannot forebear to mention that where there have been shortfalls in relation to original objectives, the problems have often been at least in part a result of difficulties in dealing with AID. These are detailed below, but a typical example to use is the very memorandum to which we are responding which seems so wide of the mark even in some factual as well as judgemental aspects, in assessing the present state of the program.

We will now turn to the specific areas addressed in the memorandum of the Office of Nutrition.

II. Research and Data

The memorandum of the Office of Nutrition contains a number of statements concerning the research activities of the M.I.T. INP program. We will comment on each statement. But it is necessary to put the issues into perspective.

First, the grant lists several broad research areas that were regarded

as priority areas of concern to INP. Nothing has occurred to change our sense that these are the essential problems INP wants to address. But these broad areas were not presented as specific research projects aiming at specific research products. Nor was there a suggestion in the grant that each research activity could address problems in only one area. To look at INP research activity, therefore, by each of these broad problem areas separately and in a series, seems to us to miss the point. All INP research, past, present, and planned, relates to these priority problem areas. We make no claim to have exhausted the relevant research that could be done or to have dealt in equal depth with every issue. But our research has been relevant to INP goals and priorities, substantial in scope, and of high quality. A list of current and anticipated research by INP staff and students is given in Appendix A.

It is important to keep in mind that the funding made available under the 211D grant to M.I.T. was not by itself adequate to fund the staff and other costs of a major research effort. Rather it was to provide core support and seed money that would permit the development of research proposals to be presented to other sources of funding.

Now to turn to the specific comments of the Office of Nutrition memorandum.

Malnutrition Causality: The memorandum correctly states that, under the first INP director, some work was done on modelling malnutrition causality. The undertaking took the form of a series of meetings between members of the INP staff, other M.I.T. faculty, INP students, and several interested individuals from Harvard. The group met on the average of ten times during each of two academic years, with each participant, from the perspective of his or her discipline, suggesting the variables that contributed to malnutrition, and offering hypotheses about how the variables related to each other and to the

outcome. The project did not involve major commitments of research time or commissioning of research papers. It was an opportunity to exchange views in a relatively systematic way about a subject of common concern.

The discussion had one concrete outcome -- a proposal to NSF/RANN for funds to develop and test the model. Unfortunately, despite several revisions and refinements of the proposal to meet NSF/RANN's suggestions, the project was not funded. Meanwhile the member of the INP faculty who was principally interested in following this approach left M.I.T., and the remaining INP staff felt other research approaches better suited their specific interests.

We at one time hoped that the several discussion outlines and bibliographic references that did exist might be combined into a report in the INP series. On closer investigation, however, it was concluded that the individual pieces were too unintegrated and the bibliography too unrelated to the theme to make a unified whole. It was, therefore, decided not to proceed further.

The effort did have concrete outcomes, however, in addition to the research proposal. The discussions were an important mutual-education experience for the participants, the ideas developed there provided much of the structure for the INP workshops, and some were incorporated into Dr. Ernesto Pollitt's M.I.T. graduate course on the Ecology of Malnutrition.

While it is correct to say that the specific line of inquiry described above has not been carried forward, it is not correct to say that malnutrition causality is not of concern to the INP program. In particular, attention is called to research by graduate students in Malaysia, Guatemala, Pakistan, and Brazil. Each of these students is working under a member of the INP staff in the development, conduct, and analysis of their work.

Alternative Nutrition Interventions: The Office of Nutrition correctly

states that INP did not respond to an RFP (RFP/TA-50044 dated 12 January 1976) for development of a manual on the selection and implementation of pre-school nutrition programs. The RFP called for preparation of a series of set-piece chapters, all following a common format and methodology.

While several members of the INP staff had participated in a project at Harvard University that developed the methodology for this RFP, the INP staff decided not to submit a bid on the project. It was not that the subject matter was not interesting. It was rather a problem of the design of the research. We examined the RFP seriously; our decision not to respond was a reasoned one. First, we felt the task would absorb too high a proportion of INP staff and student time at a critical juncture of the INP program. Second, we felt the response time (the RFP did not reach us until two weeks before a submission was due) was totally inadequate for serious planning. Third, we were skeptical that the enormous subject matter could be adequately covered within the time and resources proposed. Fourth, we felt that the RFP assumed away the really important issues and that the manual was unlikely to be of major value without much more fundamental work than was being suggested. Finally, even if we were incorrect about all the above, the task represented a data collection and presentation task that we felt was better done by a non-university research institution rather than at a university.

While that RFP did not evoke a response from INP, study of the alternate forms of nutrition intervention is a significant focus of our research. Work already done on ration shops in Pakistan, for example, is being followed by a more comprehensive analysis. Under Dr. Lance Taylor a proposal has been developed for a broad study of subsidized consumption. (This study has not yet been funded. It was submitted to AID and we shall comment in a moment on our experience with AID regarding it.) And our work on topics such as

grain reserves and trade and aid policies bears on the intended or unintended effects these government actions have on nutritional status of vulnerable target groups.

The history of our submission of a major proposal on subsidized consumption is a digression from our detailed comments on the Office of Nutrition memorandum but, in view of the importance of the issues, deserves discussion. As noted, we submitted informally to the Office of Nutrition in May 1976 a proposal for an interdisciplinary study by INP on a variety of approaches to subsidized food consumption. The proposal was put together by Dr. Lance Taylor, a member of the INP staff and a scholar with unique qualifications in this field, and involved a Political Science Professor from Wellesley (a graduate of M.I.T.'s Political Science Department), as well as graduate students in several fields. We had great difficulty getting a response to our submission, despite repeated inquiries. In fact, we have yet to receive a fully comprehensible account of the situation. At no time was the proposal judged on its merits. At one point we were told that AID was interested in the subject but would use RFP's (a highly uncertain procedure for this subject in our view), but we have never seen any on this subject. At another point we were told that AID had delegated this entire area to an outside contractor and we should explore the possibilities of a subcontract -- but the outside contractor seemed unclear about his responsibilities in this area. We are now seeking other funds for this research. But the experience contributed perhaps as much as any other to the poor communications that have existed between the AID Office of Nutrition and M.I.T.

Practical Means of Determining Nutritional Status: The memorandum states that "some research has been undertaken at M.I.T. in micro-methods of assaying serum vitamin A in the blood but it was not related to the INP program. INP program involvement in this area has been minimal." This statement shows both a surprising lack of knowledge of what has been done in this area by projects directly under INP auspices as well as a narrow view of the relationship between INP and related activities in the departments on which it is based.

The value of the Harvard step test for detecting functional impairment of individuals with anemia was first suggested by the Multifactorial Study of Malnutrition on a Guatemalan Coastal Plantation in which a number of INP students have participated and this test was developed further as part of a Ph.D. field project, sponsored by the World Bank, in Indonesian construction workers and later in rubber plantation laborers. Out of the January 1975 Guatemalan Plantation Study observations (which produced one INP M.S. thesis and gave initial field experience to five INP students and one junior staff member) came the development and field testing of a greatly simplified and shorter method of dietary survey, a project for which AID had agreed to provide supplementary support. This methodology was then further tested successfully as part of the Pakistan minisurvey and a report for AID is in preparation.

The first serious proposal for the use of thigh circumference as a more sensitive and stable measure of body leanness-fatness served as the basis of a recent INP Ph.D. thesis based on work in the Philippines. As part of this thesis a study of 200 healthy children in the Boston area provided reference standards for this measurement analogous to the well known Boston Standards for height and weight.

Both the Indonesia and Guatemala field studies provided further evidence of the value of point or period prevalence of infectious disease as a sensitive measure of nutritional status and the Indonesia-based Ph.D. provided convincing evidence that correction of iron deficiency anemia by either dietary supplements or iron tablets was reflected in reduced infectious disease morbidity.

The Ford Foundation-NICHD sponsored INP-based project to study the relationship between iron deficiency and child behavior added new functional measures of value in interpreting the significant laboratory value for blood hemoglobin, hematoctin, serum iron and iron binding capacity determined in the human nutrition research laboratories of the project.

INP staff and students have completed and published studies of the relationship between lactose tolerance and milk tolerance in preschool and school children, and are now extending this work to the elderly. While not exactly a methodology for determining nutritional status, these studies have an important bearing on dietary habits and the feasibility of supplementary feeding programs using milk. Mention should be made of an AID sponsored study, not at the time formally identified with INP but which would be today, demonstrating that dried skim milk for supplementary feeding programs could be extended or stretched by the addition of non-specific nitrogen sources such as glycine and diammonium citrate without impairing its protein value calculated on the basis of total nitrogen.

With the coming of Professor Underwood, INP is expected to provide a base for new functional studies of vitamin A deficiency for which support is being discussed with AID. Incidentally, no "research has been undertaken on micro methods of assaying serum vitamin A in blood" because the ultramicro methods developed in the 1940's are still entirely satisfactory and the present INP director is a pioneer in extensive use of these methods in both the U.S. and Central America.

It might also be noted that, since the director of INP is also head of the Department of Nutrition and Food Science and active in its human nutrition program, INP now has good lines of communication with the more scientific and technical work being done there. For example, a coordinated effort to measure protein-energy needs is underway with research workers in Taiwan, Thailand, the Philippines, Mexico, Guatemala, Colombia, and Jamaica. The coordination of this program is based in INP.

Determining Nutritional Program Benefits: The Office of Nutrition states that it is unaware of work being done at M.I.T. in this area. We call attention here to the work of graduate students in Pakistan, India, and Haiti. Furthermore, if the Pakistan program is extended as hoped, this has been designed to be a major part of the second period effort.

Effects of Income and Price Change on Nutrition: This is, as noted, a major thrust of research in the Pakistan program, where the work of Dr. Desmond McCarthy is breaking new intellectual and highly policy-relevant ground in bringing to bear economic analytic techniques that greatly enhance the power of the research. We also call attention to our work on grain reserves, food aid and trade policies, and similar topics, along with work on ration shops and other subsidized consumption schemes which also bear on the price, supply, consumption relationship.

Nutrition, Population, MCH, Sanitation: The Guatemalan Plantation Study was specifically designed to bring out the interrelationships between nutritional status, population, both western and traditional health care, environmental sanitation, and other economic and social factors. The data are so extensive that one INP staff member and two INP graduate students have been working full time on the evaluation of these data and others have helped with various subprojects related to the above objectives.

See also at
Administration
and INP on
MIT financing

Food Policy Fund
Work now being planned in India by John Field (not with 211D funds) will address these issues directly, as will work by an INP graduate student, David Pyle (with partial 211D support).

Food Policies of Food Exporting Nations: Work on both the NSF-funded project and by two INP graduate students will continue over the coming year. The Office of Nutrition memorandum mentions our proposed subsidized consumption study in this context. There is a relationship, of course, since a large number of subsidized consumption programs depend on food aid. However, our primary focus in that work will be on cost benefit analysis, nutritional impact, etc. rather than on food exporter policies.

Multidisciplinary Planning Studies: The memorandum is correct that the Pakistan study has not addressed the whole range of possible questions of interest. However, we do not find that a point of criticism. In any specific case, the exact content of our efforts at multidisciplinary planning studies must be tailored to meet available resources, available staff, AID-country interests and, of course, host country interests. While the Pakistan project does not cover the entire range of questions listed in the grant, we do not feel that to be a point of legitimate criticism.

Data Base: A very large quantity of documentation bearing on INP concerns has been collected and placed in individual country or regional files, but we have not, as the Office of Nutrition memorandum correctly states, made its systematic exploitation a priority objective. However, we have given high priority to expanding the collection, have provided ample quarters for it and share the cost of a full time trained reference librarian with the Department of Nutrition and Food Science to assure proper filing, preservation, and accessibility of this rapidly growing and valuable data base. Not only are persons coming from other institutions and parts of



the country to use this reference collection but we are also beginning to exploit it for policy purposes. For example it has recently made possible the construction of distribution diagrams for both calorie and protein consumption by income of various specific populations, analogous to that done for calories on aggregate data by continents by Reutlinger and Selowsky of the World Bank. It will be expanded by a new year-long study of breast feeding practices and their significance throughout the entire world for which external funds have been raised to support two INP graduate students and the collection of both published and unpublished data.

Handwritten notes on the left margin:
 - see
 - file
 - ...

Handwritten note: New

Publications: The Office of Nutrition memorandum states that no further numbers in the Cornell-M.I.T. International Nutrition Policy Series have been published since Morinda by F. James Levinson appeared in 1974. That is strictly correct, but casual inquiry would have determined that five exciting works are in the pipeline. Two additional volumes in the series -- Leonardo Mata, The Children of Santa Maria Cauque and E.R. Pariser et al., Protein Malnutrition and the Search for a Technological Panacea: The Case of Fish Protein Concentrate -- are being readied for release by the M.I.T. Press in March and April 1978 respectively. Two others -- Peter Hakim and Giorgio Solimano, Development, Reform and Malnutrition in Chile* and Sue Schofield, Village Nutrition -- are under review by the M.I.T. Press and it is quite likely they they will be accepted for publication. If not accepted for hard cover, typeset M.I.T. Press publication, they will be issued by the INP program directly in less prestigious format. The Guatemalan Coastal Plantation Study is now being written up and will be submitted to the M.I.T. Press early in 1978.

Handwritten notes on the right margin:
 - ...
 - ...

The long delay between the first and subsequent issues of the series is due primarily to the economics of production. The series format was designed for volumes of 125 pages or so; but the series editors accepted for the sub-
 *On 21 July 1977, this manuscript was accepted for publication by the MIT Press.

sequent numbers manuscripts of between 500 and 1100 pages. Production of volumes of these lengths in the Morinda format would have been technically questionable and enormously costly. We therefore entered into negotiation with the M.I.T. Press for the series. Not only does this make better financial sense; it also ensures a much wider audience for the series than we could have achieved with INP resources alone. (Additional delays on the Mata and Schofield volumes in particular were due to incredible mail delays between Central America and Saudi Arabia and Cambridge.)

In addition to the hard cover M.I.T.-Cornell series, the INP program issues less formal documents in its Technical Reports and Discussion Paper series. There have been twelve issued to date. (A list is given in Appendix B.)

Mention should also be made of the publication of articles, chapters, and books by the staff and students of INP. Not all of these, of course, relate to INP interests, although many do, nor were they all prepared with INP support. But the volume is impressive testimony to the productivity of the INP staff and students. (A list for the past year and a half is found in Appendix B.)

We therefore feel that the publication objective of the INP program is being achieved, with an impressive record in both volume and quality.

At the end of its listing of comments on INP research, the Office of Nutrition concludes that "there is only limited evidence that objective I [research] has been met or could be expected to be met within the period of the grant." We emphatically reject that conclusion. Any university program wishes it had more staff and more resources to do more research, and INP is no exception. But the standard of evaluation cannot be what might have been done were there no such constraints. The standards must be what has been done with available resources, and in particular what has been its quality and relevance. And by these standards, we have performed creditably and will continue to do so.

III. Education and Training

The Office of Nutrition memorandum contains a series of statements about the INP graduate study program that make it clear that we have had a near complete breakdown of communication with AID staff. In this case that breakdown is particularly distressing, for we have had several extended discussions about this matter. We appear to have failed to make clear the facts and nature of the situation.

Let us begin by providing brief answers to the memorandum's statements:

*The memorandum states there has been a loss of faculty capable of teaching core courses. In fact, while there have been changes in the faculty, we had four and a half faculty in INP in both the 1975/6 and 1976/7 academic years and will have six full time faculty by September 1977. Furthermore, the general professorial rank has been significantly raised (see Appendix D).

*The memorandum states that the number of students associated with INP has declined. The only basis for this would be in the very narrow sense of

what it meant to be "an INP student" in the early days of INP (exclusively "in" or "out"). However, we think that concept was fundamentally wrong. In a looser and we think more appropriate sense of the word, the numbers of graduate students have increased as we have drawn in to association with the program students concerned with field studies on nutritional problems of policy and planning significance and substantial numbers of undergraduates have been involved in INP projects through UROP (Undergraduate Research Opportunities Program (see Appendix D)).

*The memorandum states that there have been very few LDC students in the program. That is true and we regret it, though the expectation in the original grant was that the majority would be from the U.S. The present director believes strongly that LDC students should be in the majority in the program for both educational and programmatic reasons. However, this can only be achieved by assistance from AID and from the AID field offices. The Advanced Study Program and the development of an M.A. without specification may provide effective alternatives in the future (more on these below).

* The memorandum notes student concern with several aspects of the INP program. We have held extensive discussions with the students and have encouraged them to make their views known to visiting AID personnel. Some of their concerns are endemic among graduate students -- e.g., impatience with academic abstractions and eagerness to get at the real problems; apprehension about the future job market; a wish for greater precision as to exactly what is expected of them as general exams approach. But we do not dismiss lightly the views of the mature and able men and women who are INP students. At base they shared the concerns of the INP staff and the INP Advisory Committee about aspects of the program. We had identified these

problems earlier; but the student initiative was a major factor in leading us to make some fundamental changes in the style of our graduate program, which will be described below.

*The memorandum says INP has decided to admit no new students this year. This is a misinterpretation of a change in the concept of the graduate program, and does not reflect the actual situation.

*The memorandum states that there has been no exchange of personnel with other institutions. This has been true of the past year, which did not seem a propitious time to pursue these exchanges given the adjustments associated with a change of directors, (although one visitor from CARE was invited but had to decline). One of our graduate students is working at INCAP this year, another in the Institute of Medical Research, Kuala-Lumpur, and a third in the University of Bahia, Brazil. In addition, the INP program maintains wide contacts through its seminar program, and has regular exchanges of lectures with faculty at Harvard, Cornell, Columbia University, Tufts, and other institutions. A list of speakers is given in Appendix C.

*The memorandum states that the number of core courses has decreased. That is incorrect; it has remained unchanged during the past year and will increase next year with the addition of a course on nutrition surveys.

It is important to clarify what it is we have decided to change about the INP graduate program. The decision is based on our experience with graduate level education and, in particular, with the development of multidisciplinary programs in INP and other unrelated program areas. It must be stated at the outset that those responsible for the overall direction of the program at M.I.T., particularly the co-chairmen of the Advisory Committee, bear a heavy burden of responsibility for not having identified

the problem sooner and moved on it more expeditiously. In defense all that can be said is that the large number of students attracted at the outset and their initial enthusiasm created a false sense that all was well.

Initially the arrangement was that students were accepted into the INP program (having first been admitted by their home departments) in their first year of graduate school. They followed, over the next two years of course work, a curriculum that consisted of an obligatory core of courses on nutrition planning, nutrition economics, economic and political development, etc. plus the courses required by their home departments. They then took general exams in relevant fields of their home discipline and in nutrition planning, and wrote theses in fields relevant to INP. They were eligible only for very modest support from INP for their first year; full support the second year; and were to be supported on research funds (not core funds) for thesis work. (Although that tended to slip increasingly onto core funds.)

This procedure drew a sharp and artificial line between who was and who was not an INP student. It created bonds among those identified in this way as INP students but created barriers between them and their discipline. It also excluded other students interested in INP but not brought in through this mechanism. More basically it implied that there was a discipline called nutrition planning, and that the organizers of INP had a firm grasp of what that discipline was, and how to take promising graduate students, isolate them, and turn them out at the end of three or four years as the "new breed" of nutrition planner. That was both pretentious and wrong.

What we have put in place of this system is a less circumscribed boundary, and closer identification with the disciplinary depart-

ments. Students within departments expressing an interest in nutrition planning will be assigned as advisees to one of the INP faculty who will encourage that student to take as much of the core curriculum beyond his disciplinary requirements as seems appropriate for the individual's background and objectives. Much greater effort will be made to involve students in research related to INP objectives directed not only by "INP faculty" but also by other faculty whose research is directly relevant. And any financial assistance to the students will come via this research. (Note, this does not affect students already in the program.) INP as such will not be responsible for offering a broad curriculum outside and independent of the departments. It will take the responsibility to work with the departments to organize needed courses of the requisite quality.

The important point is that we believe it is essential that students be solidly grounded in a discipline. Only if that is satisfied can they reach out effectively to relate their disciplinary skills to policy issues that are inevitably multidisciplinary. A smattering of disciplines results in dilettantism which serves no policy purpose. The "new breed" makes sense only in extending the education of students who are masters of a discipline, and that we believe we can and must do.

And it is only students trained in that way who can serve the objectives both we and AID have. Contrary to abandoning of the effort, we have modified early directions to meet more appropriately the objectives originally intended.

We feel that this procedure will result in students who are policy-oriented problem solvers in the field where economic, social, political, nutritional, population, and other factors intersect to determine the nutritional status of a target population. This change will make INP parallel

to many other policy-oriented programs at the Institute that have been working very successfully.

Advanced Study Program: There have been problems with the Advanced Study Program over the past year, as the Office of Nutrition memorandum notes. These emerged in previous years, but not so acutely.

The problems of the immediate past year arose from several sources, including some lack of attention on our part due to the small size of the program. If the program were sufficiently large, it would have generated both the sense of community and shared experience among the fellows and also the funds needed to augment the INP staff specifically to meet the needs of the Advanced Study Program.

We also found the identification and admission of Fellows to be a serious problem of timing, coordination with AID field missions, identification by AID of appropriate Fellows, and similar issues.

We have decided to bring the Advanced Study Program more closely under INP control. (Collaboration with the Center for Advanced Engineering Study had many advantages, but it contributed to the Fellows' isolation.) Pending development of a coherent, substantial program, we will accept such Fellows on the same basis as other post-doctoral fellows and special students, i.e., as the responsibility of a specific INP faculty member. In all cases, of course, departmental admissions procedure must be met.

In the longer run we anticipate that Fellows entering the program through the UN University will increase the numbers to the required critical level.

Workshops: The INP program has held a series of highly successful workshops since its inception. The Office of Nutrition memorandum attaches great significance to the fact that none has been held recently,

though in discussions with the Head of the Office of Nutrition in 1975-6 there was agreement that there was little to be served by attempting to continue workshops in the same vein as the original series. It then seemed appropriate that a somewhat different direction would be a useful follow-on and would take advantage of a university's special skills. The INP program has, as noted, organized a workshop at M.I.T. as part of the Institute's Special Summer Session; the effort has attracted twenty applicants from a wide variety of U.S. institutions. Similarly a workshop with INP participation is being held later this month in Pakistan. The INP program was prepared to participate in a workshop this summer in the Philippines, in response largely to renewed AID interest. Preliminary discussion with the Philippine counterpart institution revealed that they felt under enormous handicap of time and over-commitment to organize the workshop; they felt, and the local AID mission and we concurred, that the activity should be postponed. We continue to be ready to participate in any future Asian workshop. And we have taken the initiative in proposing to AID further workshops in Indonesia and the Philippines and obtaining a consultant for local cooperation in them.

A recent experience relating to workshops is very troublesome to us. A member of the INP staff visited AID in Washington specifically to discuss possible INP workshops. He expressed substantial interest in organizing a workshop on quantitative methods as applied to nutrition planning and was encouraged to develop a proposal along these lines. This was done, in collaboration with other members of the INP staff, and a draft proposal detailing the content, organization, and format of the workshop, together with an estimated budget, was submitted to AID. We then were told that the workshop had to be put out for competitive bids.

Furthermore there was some indication that our draft proposal had been used as the basis of the Work Statement of the proposed RFP. At a minimum this episode suggests a serious conflict of interest problem at AID. It also tends to choke off the lines of communication we have been seeking to reopen, and certainly raises questions about the willingness of AID to use appropriately the capability it has helped to create.

The Office of Nutrition memorandum concludes its review of the INP work in the area of education and training by stating that performance has been "generally unsatisfactory." With the exception of the Advanced Study Program, that is a statement that seems to us to be simply unsupported by the facts. Quite the contrary: though our efforts have been in some cases uneven, the thrust of graduate education and workshops has been characterized by positive results and productive change through experience.

The memorandum goes on to make a curious statement that our "generally unsatisfactory" performance is "to a great extent due to institutional problems which cannot be rapidly overcome." Nothing in the preceding paragraphs of the memorandum makes clear what these "institutional problems" are. However, on the basis of earlier discussions with the Office of Nutrition we believe we know what is intended.

The Office of Nutrition has frequently advanced the view that, in order to succeed, INP must free itself of the shackles of the participating disciplinary departments. As it stands now faculty are hired through departments on the basis of disciplinary excellence; students are evaluated and admitted through departments in the first instance; and the final judge of a student's performance is his or her home department which establishes the standards of course work and performance that must be met

to complete a degree. Would it not be more efficient, it is asked, if INP could shed those impediments and substitute only INP standards when it comes to faculty, students, and degrees?

Our response is that the procedures the Office of Nutrition sees as obstacles are in fact the strengths of the program at a university, although they may slow its initial stages. Indeed our problems have arisen when we departed from those norms. Not all AID external research should, of course, be done at universities. But when one turns to a university, one does so because of the institution's strengths. And the departmental structure is the primary mechanism the university uses to ensure quality among its faculty, teaching, students, and research. Interdisciplinary structures have emerged at M.I.T. in great number. But they have grown within the disciplinary organization first and emerged as separate entities only if justified as a new discipline. Nutrition planning is not now a separate discipline; it is a policy-oriented focus requiring collaboration among disciplines. If INP is to become a part of M.I.T. over the long run, it must share the values and norms of the Institute, not because of tradition, but because that is the route to a quality program.

IV. Advisory Capacity

Pakistan: The Pakistan project has, by all measures, been going extremely well. This is recognized by the Office of Nutrition memorandum. The memorandum is critical of the fact that a large number of the personnel are not full time members of the INP staff. The meaning of that criticism is not clear, for the implication is incorrect. There is at present only one individual in INP (the Associate Director) who is paid full time from INP core funds. All other members of the staff and faculty draw at least

*M I T 2
faculty or
Research staff*

half of their incomes from other sources. If the criticism is aimed at permanent INP staff, only two can be said to be permanent - the Director and Professor Taylor, both of whom are tenured professors. Professor Taylor, in fact, is in charge of the Pakistan project and actively engaged in it. The balance of the project staff consists of INP students, a student from Brandeis who is working with the INP program on her dissertation research, an economist who participates fully in INP activities, although his salary comes solely from the Pakistan project, and the full-time field representative. It is doubtful that INP can ever mount a multi-year field program that would commit one of its core faculty to a field assignment for long periods. The staff is too small to make that a reasonable alternative, and it is not at all clear it would be a wise course with such limited resources. Furthermore, the core funding provided by AID was never sufficient to enable us to employ people on core funds for full time assignment abroad. An examination of the budget distribution across objectives bears this out; around \$25,000 a year was assigned to the Advisory objective. Much more important is to have core staff and faculty actively responsible for different activities, in a way that can ensure high quality and adequate oversight. That is exactly the situation on the Pakistan project.

Other countries: The Office of Nutrition memorandum cites as evidence of a lack of INP interest in this area the fact that the INP program did not bid on RFPs for nutrition planning in Morocco, Zaire, or two for Bolivia.

We did receive copies of the RFPs on Morocco and on Zaire and, after consideration, decided not to bid on them, primarily because language skills in French are lacking on our staff. In conveying these decisions to the Office of Nutrition, as well as on other occasions, we indicated INP's strong interest in such advisory programs in either Asia or in Latin America.

Despite this expression of interest, however, and despite the fact that the RFPs for Morocco and Zaire came to us unsolicited, we never received a copy of either RFP on Bolivia and in fact heard about them only by accident. We would have bid on one or both had we been aware of the opportunity.

Our inquiries as to why we had not received the Bolivia RFPs were answered with the statement that RFPs are routinely listed in Commerce Business Daily and it was up to us to peruse that daily. Inquiries around M.I.T. revealed that numbers of RFPs come to the Institute every day, both to individuals and to the central Office of Sponsored Programs; they are sent by a variety of federal agencies and departments because of the Institute's known or assumed interest in the topic. It remains then an unresolved mystery as to why the Bolivia RFPs never came when others did. And it served still further to make communications between INP and the Office of Nutrition difficult.

It must also be noted that on an individual basis, all of the members of the INP staff have, over the past year, been engaged in advisory activities at the behest of AID, WHO, UNU, Rockefeller and Ford Foundation and others in every continent of the world. The number of such advisory visits to countries is from 10-20 depending on interpretation. Thus, advisory services provided by INP resources should be seen in a broader framework than formal contracts alone.

V. Linkages

Linkages are seen by INP to include the natural contact among scholars sharing a common interest, through professional interchange, publication, participation in professional programs, etc. Linkages in this sense have been rich and healthy. We refer again to the seminar speakers, publications, participants in the present summer workshop, close links with Harvard, Tufts, Cornell, Columbia, and other universities, continued contact with INCAP, the University of Puerto Rico, the IMR-Kuala Lumpur, and so forth. And our association with UNU provides enormous opportunities for global associations. (See below for further discussion of developing ties with the Harvard School of Public Health.)

VI. Workplan

Most of the comments of the Office of Nutrition memorandum that relate to the Workplan for Years III and IV have been dealt with in the previous comments. It might be appropriate here to mention only two specific additional points.

Concerning the Master's degree program, with the exception of a non-departmental or interdepartmental Master's program, we have carried out the intentions of the Workplan. The Nutrition and Food Sciences Department has placed greater emphasis on the Master's degree related to INP, and the Political Science Department has accepted a Master's degree program in nutrition policy.

Another development of importance, that will also facilitate meeting the objective of more foreign students in the program, is the use of a special master's program mechanism allowing acceptance of candidates for an

M.A. without specification rather than for an M.S. This will make it possible for the Department of Nutrition and Food Science to accept students on behalf of INP without rigid prerequisites or requirements other than those posed by INP and the responsible faculty member. This will help in the admission not only of foreign students but those whose prior background has been more in anthropology or sociology than in nutrition, biology, or biochemistry.

A non-departmental program, however, raised the conceptual problems alluded to earlier and it was decided that in the present climate of change other issues had priority claim on our time. Moreover, the Department of Nutrition has been willing to accept Master's students on a broader disciplinary basis to fill any need for the time being, if it proves necessary.

In sum, our view of the status of the 211D nutrition program at M.I.T. is fundamentally different from that of AID's Office of Nutrition. Some of the differences are obviously matters of judgment; others are matters of fact which are troublingly misconstrued in the Office of Nutrition memorandum. We believe the INP to be an exceedingly important program that has problems, but that those are far outweighed by its strengths. It has benefited from early AID support, but will proceed in any case, with or without the continuation of that support.

We wish to close this commentary with a report on a development that has been under discussion for the past months between INP and the Harvard School of Public Health. We now plan to establish a formal cooperative

relationship that will greatly add to the strength of INP in many ways. Three members of the HSPH faculty will hold courtesy appointments in the Department of Nutrition and Food Science on behalf of the INP program: Dr. Joseph Wray, Dr. Peter Timmer, and Dr. James Austin. Complementary courses will be identified and developed which will be available to students at both universities through cross registration. In addition, the faculty of either school will be able to accept, advise, and guide the research of future INP students. The choice of relevant courses and seminars for INP students will be still broader as a result. We feel that this development represents a further quantum increase in the strength of the INP program and its capacity for both research and graduate training.

An additional objective in forming the cooperative M.I.T.-Harvard relationship is to provide broader training opportunities for fellows in the Advanced Study Program and to respond to an invitation from the United Nations University which is willing to send six more such fellows per year from LDC institutions to a joint program. This new development has been approved by the UN University council and the Program Subcommittee of the Hunger program and awaits only the formal program presentation of M.I.T.-Harvard. We believe this will help us to achieve the critical mass which will make the program more useful to AID- and Foundation-sponsored Advanced Study Fellows and relieve past problems with the program attributable to its small size.

Appendix A

INP Research

Research by Faculty and Staff

Nevin Scrimshaw:

Multifactorial Study of Nutrition and Health on a Guatemalan Coastal Plantation. In January 1976.

Lance Taylor:

Pakistan Nutrition Planning Project: funded by AID in collaboration with Nutrition Cell, Planning Division, Government of Pakistan. Involved M.I.T. personnel include Desmond McCarthy, Bea Rogers, Debby Gilbert, Lowell Lynch, Will Rand, Ernesto Pollitt, Nevin Scrimshaw, Lance Taylor. In operation since June 1975; discussions now underway for extension into 1979.

Grain Reserves, Emergency Relief, and Food Aid: funded by NSF and Overseas Development Council. Participants in addition to Taylor are Philip Abbott and Alexander Sarris (INP graduates) and Sally Dodge.

Macroeconomic Policy in Semi-Industrialized Countries: general research interest based on consulting (IBRD, AID, OECD) and miscellaneous support. Collaboration with Paul Krugman and Eliana Cardiso (graduate students) and Richard Eckaus and Rudiger Dornbusch (professors).

Income Distribution Estimation: funded by NICHD, with Professor Eckaus.

Food Policy Planning Models: discussions underway with Ford Foundation and International Food Policy Research Institute.

Subsidized Consumption: proposal submitted to AID in May 1976.

Ernesto Pollitt:

Iron Deficiency and Behavior: funded by NICHD. Associated faculty is Vernon Young; other research associates are Rudolph Leibel, M.D., Daryl

Greenfield, Mary Keber, and William Wetzel (INP student).

Maternal and Infant Behaviors Regulating Early Growth: funded to date by NICHD, renewal funding is pending. In collaboration with the University of Puerto Rico Medical School.

Intervention Programs for Multiply-Deprived Children in Latin America: consultation with Ford Foundation project.

Evaluation of Educational Benefits of U.S. School Feeding Programs: funded by the Ford Foundation.

John Field:

Rural Health Delivery Systems in Egypt: funded by M.I.T. program on technology transfer.

Impact of Kottar Social Service Society's MCH Program: collaboration with David Pyle (INP graduate student).

Analysis of Successful Nutrition Community Programs: consultation with Community Systems Foundation project.

Desmond McCarthy:

Problems Associated with the Development and Impact of Marketing on Rural Employment and Nutrition: Informal proposal submitted to AID and USDA June 1976.

Nutrition Planning in Pakistan: See above under Taylor.

Bea Rogers:

Evaluation of Ration Shop System in Pakistan: field work done as part of Pakistan project.

Max Milner:

Post Harvest Food Losses: proposal pending with NSF.

INP Students:

The following research has been undertaken by INP students.

Completed in 1975-76:

Philip Abbott: Analytical and Econometric models of the macroeconomic impact of food aid on food production, consumption, and trade flows in both developed and underdeveloped countries, Ph.D. thesis, 1976.

Elizabeth Frazao: Energy expenditure of pregnant and lactating women on a Guatemalan Coastal Plantation, MS thesis, 1976.

Completed or in progress, 1976-77:

Stephen Green: U.S. agricultural policy and world food production.

Barbara Greenberg: Sucking ability in low birth weight infants, M.S. thesis 1977.

Desmond McCarthy: Nutrition, food and prices in Pakistan.

Alexsander Sacris: Theoretical models of food contingency reserves schemes.

Marian Zeitlin: New anthropometric methods for assessing nutritional status of infants.

Anita Bromley: Treatment of rice to improve the retention of fortifying agents, especially B vitamins.

Chee Khoon Chan: Socio-economic study of the effects of income and other variables on the nutritional status of rural and urban workers in Malaysia.

Judith McCuire: Relationship between nutritional status of mothers and welfare and progress of infants.

Ranan Cohen: Mathematical models of the relationship between mental development and nutritional status.

Herbert Owen: Energy protein nutritional efficiency relationship in weaning foods.

Heidi Van Arsdell: Analytical survey of studies of breast feeding practices in developing countries.

Marvin Rorich: Lactose intolerance among the elderly of various ethnic backgrounds.

Peter Kwon: Lactose intolerance among adolescents of various ethnic backgrounds.

Richard Sobel: Socio-economic determinants of nutritional status (Guatemalan plantation study).

?? Singh: India's grain reserve program.

Jeffrey Hammar: Variables affecting nutritional status (Pakistan).

Richard Lockwood: Ecological and agricultural determinants of protein energy malnutrition in preschool children in rural northeast Brazil.

Anne Eckberg: Evaluating the effectiveness of nutrition programs (Haiti).

David Pyle: Measuring the effectiveness of nutrition intervention programs (India).

Mitchel Wallerstein: U.S. food aid policy.

Sally Dodge: Effects of U.S. food aid policy on agricultural development in Latin America.

Marion Zeitlan: Breastfeeding and growth status in two pre-school child populations; reference standard - for maximum size circumference from 0-5 years: to thigh circumference - an age-independent screening index for pre-school nutrition interventions - Ph.D. thesis, Spring 1977.

Appendix B

Recent INP Publications

International Nutrition Policy Series

- Leonardo J. Mata, The Children of Santa Maria Cauque: A Prospective Study of Health and Growth, Cambridge, Mass.: MIT Press, March 1978 (forthcoming).
- E.R. Pariser, Mitchel B. Wallerstein, Christopher J. Corkery, and Norman L. Brown, Protein Malnutrition and the Search for a Technological Panacea: The Case of Fish Protein Concentrate, Cambridge, Mass.: MIT Press, April 1978 (forthcoming).
- Peter Hakim and Giorgio Solimano, Development, Reform, and Malnutrition in Chile, accepted for publication.
- Sue Schofield, Village Nutrition: A Micro-Level Study, forthcoming.

Other Publications by INP

- Scrimshaw, Nevin S., James E. Austin, John R. Harris, Chokyun Rha and A.J. Sinskey. High Protein Product Development Efforts in Thailand. July 1973. Technical Report #1, C/73-16.
- Cooney, Charles L. and Charles Dunlap. Utilization of Agricultural Waste for Animal Feed in Panama. March 1975. Discussion Paper #1, C/75-7.
- Abbott, Philip C., and F. James Levinson, Ernesto Pollitt, Jon Rhode, Nevin S. Scrimshaw, Barbara A. Underwood, Joe D. Wray. Nutrition Program Development in Indonesia. March 1975. Technical Report #2, C/75-9.
- Hakim, Peter, and Giorgio Solimano. Supplemental Feeding as a Nutritional Intervention: The Chilean Experience in the Distribution of Milk. May 1975. Discussion Paper #2, C/75-11.
- Green, Stephen Keith. United States Agricultural Policy and World Food Production. April 1975. Discussion Paper #3, C/75-12.
- McCarthy, Desmond F. Nutrition, Food and Prices in Pakistan. June 1975. Discussion Paper #4, C/75-16.
- Hakim, Peter and Giorgio Solimano. Nutrition and National Development: Establishing the Connection. July 1975. Discussion Paper #5, C/75-18.
- McCarthy, Desmond F. Nutrition Planning in Brazil-A Policy Oriented Multidisciplinary System. August 1975. C/75-28.

Rogers, Beatrice L. and F. James Levinson. Subsidized Food Consumption Systems in Low-Income Countries: The Pakistan Experience. April 1976. Discussion Paper #6, C/76-1.

Nestor, Jeanne P. Towards an International Malnutrition Map. June 1976. Discussion Paper #7, C/76-7.

McCarthy, Desmond F. Food Demand Supply and Nutrition Planning Implications for Pakistan, November 1976. Discussion Paper #8, C/77-1.

_____. Nutrition Planning Analysis of Some Policy Options. January 1977. Discussion Paper #9, C/77-2.

Other Publications by INP Staff

Lance Taylor

"The Unequalizing Spiral: A First Growth Model for Belindia," (with Edmar Bachs) Quarterly Journal of Economics, May, 1976.

"Cereal Stocks, Food Aid and Food Security for the Poor" (with Alexander H. Sarris and Philip C. Abbott, under revision as Grain Reserves, Emergency Relief and Food Aid), report for the Overseas Development Council.

"Research Topics in Income Distribution and the Economics of Food," report for the International Food Policy Research Institute

"Contractionary Effects of Devaluation" (with Paul Krugman), accepted for publication in the Journal of International Economics

"Identity-Based Planning of Prices and Quantities: Some Cambridge Conundrums for Brazil" (with Eliana A. Cardoso), submitted to American Economic Review

"Food Subsidies and Income Distribution in Egypt," report for the World Bank

Papers under preparation include contributions to a World Commodity Conference (Airlie House, Virginia, March, 1977) and to a Conference on Income Distribution and Development (Bellagio, Italy, April, 1977)

Nevia S. Scrimshaw

Scrimshaw, N.S.: Strengths and Weaknesses of the Committee Approach -- An Analysis of Past and Present Recommended Dietary Allowances for Protein in Health and Disease. (The 86th Shattuck Lecture, presented at the 194th Anniversary Meeting of the Massachusetts Medical Society, Boston, May 28, 1975). New England Journal of Medicine 294: 136-142; 198-203, 1976.

Garza, C., and Scrimshaw, N.S.: Relationship of Lactose Intolerance to Milk Intolerance in Young Children. American Journal of Clinical Nutrition 20: 192-196, 1976.

Scrimshaw, N.S., and Behar, M. (Eds.): Nutrition and Agricultural Development--Significance and Potential for the Tropics, Plenum Publishing Corporation, New York, 1976, 500 pp.

Rand, W., Young, V.R., and Scrimshaw, N.S.: Change of Urinary Nitrogen Excretion in Response to Low-Protein Diets in Adults. American Journal

of Clinical Nutrition 29: 639-644, 1976.

Scrimshaw, N.S., and Suskind, R.M.: Interactions of Nutrition and Infection. Dental Clinics of North America 20: 461-472.

Scrimshaw, N.S., Wang, D.I.C., and Milner, M.: Protein Resources and Technology: Status and Research Needs. Report prepared for the National Science Foundation, Research Applications Directorate, NSF RA-T-75-037, December 1975. U.S. Government Printing Office, Washington, D.C.

Scrimshaw, N.S., and Young, V.R.: The Requirements of Human Nutrition. Scientific American 235 (3): 51-64, 1976.

Milner, M., Scrimshaw, N.S., and Wang, D.I.C.: An Analysis of U.S. Protein Resources and Research Needs, in Proceedings of the Xth International Congress of Nutrition, August 3-9, 1975, Kyoto, Japan, edited by the Proceedings Subcommittee XICN, Victory-sha Press, Kyoto, Japan, 1976, pp. 386-387.

Scrimshaw, N.S.: The Nature of World Protein Needs, in: Proceedings of the Second Asian Congress of Nutrition, Manila, Philippines, in press.

Scrimshaw, N.S.: Protein-Calorie Malnutrition, in: Encyclopedia of Food Science, M.S. Peterson, and A.H. Johnson (eds.), AVI Publishing Co., Inc., Westport, Conn., in press.

Scrimshaw, N.S., and Young, V.R.: Biological Variability and Nutrient Needs, in: Human Nutrition, S. Margen (ed), AVI Publishing Co., Inc., Westport, Conn., in press.

Scrimshaw, N.S., and Young, V.R.: Nutritional Evaluation and the Utilization of Protein Resources. An Introduction. In: Proteins for Human Consumption, C.E. Bodwell (ed.), Chapter 1, AVI Publishing Co., Inc., Westport, Conn., in press.

Garza, C., Scrimshaw, N.S., and Young, V.R.: Human Protein Requirements: A Long-term Metabolic Nitrogen Balance Study in Young Men to Evaluate the 1973 FAO/WHO Safe Level of Egg Protein Intake, J. Nutrition, in press.

Garza, C., Scrimshaw, N.S., and Young, V.R.: Human Protein Requirements: Evaluation of the 1973 FAO/WHO Safe Level of Protein Intake for Young Men at High Energy Intakes. Brit. J. Nutrition, in press.

Max Milner

Milner, M., Scrimshaw, N.S., and Wang, D.I.C.: Protein Resources Research: An Analysis of U.S. Needs. Proceedings and Minutes, Agricultural Research Institute, 24th Annual Meeting, pp. 176-202, October, 1975.

Scrimshaw, N.S., Wang, D.I.C., and Milner, M.: Protein Resources and Technology: Status and Research Needs. Report prepared for Seminar on Research Recommendations, National Science Foundation/ RANN NSF RA-T-75-037, 100 pp., December, 1975.

Milner, M.: Cereals and Other Grain Crops in World Nutrition. Presentation to Food Update Fifteen, Food and Drug Law Institute, April, 1976.

Milner, M., Scrimshaw, N.S., and Wang, D.I.C.: Protein Resources and Technology.

- Vol. 1 Summary and Research Recommendations
- Vol. 2 Common Issues and Problems in Protein Research Development
- Vol. 3 A Review of Specific Protein Resources

(approximately 1500 pages in the three volumes), NSF/RANN, September, 1976 (in press).

Ernesto Pollitt

Pollitt, E. and Leibel, R., Iron deficiency and behavior, Journal of Pediatrics 88:3, 372-381, 1976.

Pollitt, E. and Eichler, A., Behavioral disturbances among failure-to-thrive children. American Journal of Diseases of Children. 130, 24-29, 1976.

Pollitt, E., Comentario critico sobre el trabajo de S.D. Roedenbeck: Desnutricion proteica prenatal y desarrollo del sistema nervioso. Revista de Neuro Psiquiatria, Lima, Peru. 1977 (in press).

Chapters in Books

Pollitt, E. and Thomson, C., Protein-calorie malnutrition and behavior: a view from psychology. In Wurtman and Wurtman (eds.) Nutrition and the Brain. Vol. 1, Raven Press (in press).

Thomson, C. and Pollitt, E., Effects of severe protein-calorie malnutrition on behavior in human populations. In L. Green (Ed.) Malnutrition, Behavior and Social Organization, Academic Press (in press).

Leibel, R., Greenfield, D. and Pollitt, E. Iron deficiency anemia and mental development. In M. Winick (Ed.) Textbook of Nutrition. Plenum Press, 1977 (in preparation).

Papers presented at Meetings

Pollitt, E. Nutrition and mental health. Paper presented at a Symposium of Nutrition and Mental Health in Peru. IV National Congress of Psychiatry. Lima, Peru. August, 1976.

Pollitt, E. and Gilmore, M. Identification of developmental risk factors in newborns. Paper presented at a Symposium on Research with Infants in Latin America. XVI Interamerican Congress of Psychology, Miami Beach, December, 1976.

Gilmore, M. and Pollitt, E. Mother-Infant Interaction and weight gain. Paper to be presented at a Symposium on Disturbances in Early Parent-Infant Interaction. Society for Research in Child Development. New Orleans, March, 1977.

John O. Field

Field, John O. and Wallerstein, Mitchel B. Beyond Humanitarianism: A Developmental Perspective on American Food Aid, in Food Policy: U.S. Responsibility in the Life and Death Choices, Peter G. Brown and Henry Shue. New York: The Free Press, 1977 (forthcoming).

Field, John O. The Soft Underbelly of Applied Knowledge, Conceptual and Operational Problems in Nutrition Planning. International Nutrition Planning Program, July, 1976. To be submitted for publication.

Field, John O. "Nutrition Planning and Development," address inaugurating the nutrition planning workshop organized by the Foundation for the Peoples of the South Pacific, Port Moresby, Papua New Guinea, November 21, 1976; submitted for War on Hunger.

Field, John O. "Political Parameters of Nutrition Planning," in Mary Ann Anderson and Tina Grewal, Nutrition Planning in the Developing World (New York: CARE, Inc., 1976).

F. Desmond McCarthy

Pakistan Papers

"Agricultural Production" - Nutrition Planning Cell, Ministry of Finance Planning and Economic Affairs, Government of Pakistan, Center for International Studies, M.I.T., I.N.P., July, 1976.

"Purchasing Power in Pakistan" - Nutrition Planning Cell, Ministry of Finance Planning and Economic Affairs, Government of Pakistan, Center for International Studies, M.I.T., I.N.P., July, 1976.

"Nutritional Status in Pakistan" - Nutrition Planning Cell, Ministry of Finance Planning and Economic Affairs, Government of Pakistan, Center for

International Studies, M.I.T., I.N.P., July, 1976.

"Nutrition Planning Analysis of Some Policy Options" - Center for International Studies, M.I.T., I.N.P., June, 1976, (revised 1/77).

"Demand for Food in Pakistan" - Center for International Studies, M.I.T., I.N.P., May, 1976.

"Consumer Demand in Pakistan: Broad Patterns of Expenditure" - Center for International Studies, M.I.T., I.N.P., April, 1976.

David Pyle

"From Pilot Project to Operational Program - the Problems of Transition as Experienced in Project Poshak," June 15, 1976 (to be published as part of book by M. Grindle, Policy Implementation in the Third World, University of California Press, forthcoming).

"Project Poshak" - a case study, Harvard School of Public Health, Cambridge, Massachusetts, 1976.

Appendix C

Seminar Speakers

International Nutrition Planning Seminars

Fall 1976

<u>Speaker</u>	<u>Institution</u>	<u>Tentative Topic</u>
Dr. Max Milner	M.I.T.	Protein Resource Study
Dr. Guillermo Herrera	H.S.P.H.	Food Supplementation During Pregnancy
Mr. Dan Shaughnessy	USAID (Food for Peace)	Another Perspective on Nutrition Planning
Dr. Peter Timmer	Cornell	NAS Study of Nutrition Problems
Dr. Dale Hathaway	International Food Policy Research Institute	Surveillance of World Food Production and Availability
Dr. Joel Teitelbaum	U.N.C.	Food Habits in the Sahel
Dr. Michael Latham	Cornell	Nutrition Planning in Africa
Dr. Sol Chafkin	Ford Foundation	Nutrition in Development
Dr. Habicht	N.I.H.	Field Research Problems (Guatemala)
Dr. Norbert Hirschhorn	Management Sciences for Health	Diarrhea and Oral Rehydration
Dr. Les Teply	UNICEF	Programming and Research Needs
Spring 1977		
Dr. Robert Klein	INCAP	Mental Development and Supplementary Feeding
Dr. Martin Forman	Office of Nutrition /USAID	Nutrition Planning - The State of the Art
Dr. Lester Teply	UNICEF	UNICEF Nutrition Programming - <u>Where it is and Where it is going</u>

<u>Speaker</u>	<u>Institution</u>	<u>Tentative Topic</u>
Dr. Marcelo Selowsky	World Bank	"Malnutrition & Poverty: Magnitude & Policy Options" - Where do we go from here?
Dr. Robert Chandler	Formerly of IRRI	The Programs of the International Agricultural Research Centers and the Requirements of the Small Farmers
Dr. Rudy Leibel	WIC Program	Cambridge WIC - Supplemental Food in the Real World
Dr. Steve Read	PAHO	PAHO: It's Nutrition Programming in Latin America
Dr. David Korten	Harvard SPI	Management Problems in the Implementation of Social Sector Programs
Dr. Joel Teitlebaum	University of North Carolina	Human vs. Animal Nutrition: Post Drought Sahel Development
Dr. Juan Baertl	VPI	Haitian Mot. craft Center Program - An Experience in Evaluation
Dr. Henry Sebréll	Wellesley	Policy Implemental in the Third World

Appendix D

INP Faculty and Students

	75/6	76/7	77/8
<u>Faculty</u>			
Professors	2	2 1/2*	2
Senior Lecturers		1	1
Associate Professor	1	1	2
Assistant Professor	1	--	--
Instructor	1/2*	--	--
Under Negotiation			1
	<hr/>	<hr/>	<hr/>
	4 1/2	4 1/2	6
<u>Students</u>			
MS Candidates	3	5	9
PhD Candidates	15	17	15
Special Students	1	2	1** 1
	<hr/>	<hr/>	<hr/>
Total Graduate Students	19	24	26
Undergraduates (UROP) (semesters)			
Fall	2	9	***
Spring	9	9	
Summer	--	6	
	<hr/>	<hr/>	
Total Undergraduate Semesters	11	24	

* One semester only.

** Special AM without specification.

*** Arranged after opening of school year.